

What is claimed is:

1. A method of manufacturing a cam shaft, characterized in that after an inner circumferential surface of a cam lobe is subjected to treatment for residual compressive stress addition treatment,
5 the cam lob is joined to a shaft.

2. The method of manufacturing a cam shaft according to claim 1, characterized in that the residual compressive stress on the inner circumferential surface of the cam lobe is not less than 100 MPa.
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3. The method of manufacturing a cam shaft according to claim 1 or 2, characterized in that after an outer peripheral surface of the cam lobe is further subjected to treatment for residual compressive stress addition treatment, the cam lobe is joined to
15 the shaft.

4. The method of manufacturing a cam shaft according to any one of claims 1 to 3, characterized in that residual compressive stress on the outer peripheral surface of the cam lobe is not less than
20 100 MPa.

5. The method of manufacturing a cam shaft according to any one of claims 1 to 4, characterized in that the treatment for residual compressive stress addition treatment is at least any one of
25 shot-peening treatment, induction hardening treatment, barrel polishing treatment, carburizing and quenching treatment or carbonitriding treatment.

6. A cam shaft, characterized in that the cam shaft has a cam lobe in which an inner circumferential surface is subjected to treatment for residual compressive stress addition treatment.

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7. A cam lobe material, characterized in that an inner circumferential surface of the cam lobe material is subjected to treatment for residual compressive stress addition treatment.